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# The Effect of the Physical Environment on Consumers' Perceptions: A Review of the Retailing Research on External Shopping Environment

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**Abstract** – Regarding the revitalization of intra-urban centres, this review focuses on consumers' perceptions of the physical environment with emphasis on the tangible elements in the external shopping environment. Based on the typologies of environmental elements, a systematic review of 59 retailing articles by means of content analysis was conducted. Several design and ambient elements were identified as relevant to consumers, but an in-depth understanding of their effects is needed to enhance the attractiveness of intra-urban centres.

**Keywords** – Consumer, external shopping environment, perception, retailing, review.

## INTRODUCTION

A healthy town or city centre is a vibrant environment offering a wide range of activities and services. However, the increased competition from off-centre and online retailing has made it challenging to attract consumers to main streets. As a reaction, the public-private collaborated development projects have been implemented to revitalize the intra-urban shopping areas [1]–[4]. Nevertheless, given that the physical environment appears to influence patronage behaviour [5]–[7], in revitalization projects more emphasis should be placed on consumers' perceptions [2], [8].

Although there is a body of retailing research focusing on consumers' perceptions of the internal store environment and the effects of its elements (e.g. music, layout, architecture) on consumer behaviour, there are few corresponding studies related to the external shopping environment, such as shopping streets and markets [4], [7]–[9]. City/town centre, in particular, requires attention, given that its unique physical environment (e.g. historic buildings and landscapes) is considered a vital asset in the competition with other shopping environments [3].

Using content analysis, this paper reviews retailing research articles during 1990–2015 to gain an overview of consumers' perceptions of the external shopping environment. The framework of the review is based on the typologies of environmental elements dealing with the effects of the physical environment on consumers' perceptions [2], [7], [8], [10], [11]. The emphasis is on the tangible elements, which provide a context for the intangible social environment [12]. The external elements discussed from the consumer's perspective are identified, and the consumers-related perceptions of these externals are summarized. The aim is to identify what kind of elements influence consumers' percep-

tions and could they be used in planning and designing attractive intra-urban shopping environments.

## I. MULTIDIMENSIONAL SHOPPING ENVIRONMENT

Consumers base their patronage decisions on a range of retail and non-retail influences. The effect of the physical environment on consumers' perceptions and behaviour is widely recognized [2], [7], [10]. It has been reported that consumers are influenced by a combination of elements in the environment and that the physical environment may be more influential in purchase decisions than the actual merchandise [13]. However, multidimensional shopping environment with its various elements may evoke ambiguous perceptions. It should also be noted that the shopping environment may affect consumers in contradictory ways, provoking a desire to stay or to avoid [5], [14]. Both may be of interest to retailers and can be controlled by environmental elements [7], [11], [15].

The physical shopping environment includes the internal store environment and the external shopping environment. Most internal elements are controlled by retailers, whereas external elements are usually beyond their direct control [2], [16]. The walls of the buildings typically separate these environments in a clear-cut manner. The external shopping environment constitutes the retail-oriented outdoor space including the streets, pavements and squares. There is also a vaguely bordered transitional zone (e.g. entrances and street terraces), where the transition from being inside a store to being outside it is made [17]. There has been widespread research on the interior or immediate exterior of stores, whereas fewer studies focus on the external shopping environment [4], [9].

Both shopping environments comprise tangible physical and intangible service elements [12]. The tangibles constitute the hardware of the shopping area whereas the intangibles are related to the people within the environment [10], [12], [18]. Several typologies of environmental elements have been developed to explain the role of the physical environment in consumers' perceptions and behaviour [2], [8], [10], [19]. In the following, some widely acknowledged typologies of the internal elements are described, and recent solutions to apply the typologies to the external shopping environment. The focus in this review is on the tangible elements. As being measurable, observable or manufactured they offer retailers and urban planners more concrete

means than intangibles with which to enhance the attractiveness of the intra-urban centres [11], [15].

## II. TYPOLOGIES OF ENVIRONMENTAL ELEMENTS

The framework of this review is based on the threefold typologies by Baker [19] and Bitner [11] used widely in retailing research. Although these typologies focus on the in-store environment the effect of individual elements were found to extend into the transitional zone (e.g. lighting and fragrance). Baker's [10], [19] typology consists of tangible ambient and design factors, and intangible social factors that influence store image (see Fig. 1). *Ambient factors* are the background elements that affect consumers' sensations. They may be visual (e.g. lighting), hygienic, olfactory (e.g. cleanliness, smell), climatic (e.g. temperature) or auditory (e.g. noise) [10], [11], [15]. Design factors are more concrete than ambient factors. *Functional design factors* include layout (e.g. space arrangement), convenience (e.g. signs, way-finding), and privacy (e.g. safety/security), whereas *aesthetic design factors* refer to architecture, style, colour and materials. *Social factors* are related to customers and personnel in the store environment [10], [19].

Bitner [11] presented environment dimensions and service typology in the servicescape context (the human-made physical environment). The dimension of the *ambient conditions* resembles Baker's [19] ambient factors (Fig. 1). The *spatial layout and functionality* dimension corresponds partly with functional design factors [19]: layout refers to the spatial relationships of furniture, for example, whereas functionality refers to how the elements facilitate shopping. The *signs, symbols, and artifacts* dimension has both functional and aesthetic characteristics, facilitating way-finding and being decorative. The service typology is based on *social interaction* between other customers and employees [11].

Later, Turley and Milliman [7] modified these classic typologies to illustrate the effect of facility-based environmental cues on shopping behaviour. Their in-store typology (general interior, store layout, interior displays and human variables) overlaps with the typologies of Baker [19] and Bitner [11], but their typology also includes the dimension of *external variables* (Fig. 1). It refers to physical objects in the transitional zone (e.g. entrances, display windows), facilities such as parking, and aesthetic elements including the architecture. Given their influence on consumers, Turley and Milliman [7] call for more attention to the externals in retailing research. As a respond, De Nisco and Warnaby [8] constructed a typology that is based on previous typologies [7], [11], [19], but is applicable in an external shopping environment. The *urban space layout and functionality* component includes functional design factors (Fig. 1) such as pedestrian-street maintenance, parking availability and ease of movement (street layout/accessibility). *Urban physical design* includes aesthetic factors such as building colours, urban furnishing, the design of public spaces and the infrastructure, whereas the *store's exterior appearance* includes window-display aesthetics and exterior design. De Nisco and Warnaby, like Turley and Milliman [7], did

not take the external ambience into account, but they did suggest that ambient cleanliness should be investigated as an easily controllable element [8]. Recently, Hart et al. [2] took the urban ambience (e.g. lighting, temperature, noise) into account in their multidimensional model of town-centre images and experiences. They emphasized the importance of understanding consumers' perceptions of these atmospherics to boost patronage. In addition to these *sensory elements* (ambience), their model includes external *physical elements* (layout, accessibility, appearance) as well as *social elements* (Fig. 1) [2].

In sum, the typology used as the framework of the review is a simplification of these overlapping typologies including *external ambient* and *design elements*, the design elements being further classified as *functional* (urban space layout and functionality) and *aesthetic* (urban physical design, store's exterior appearance).

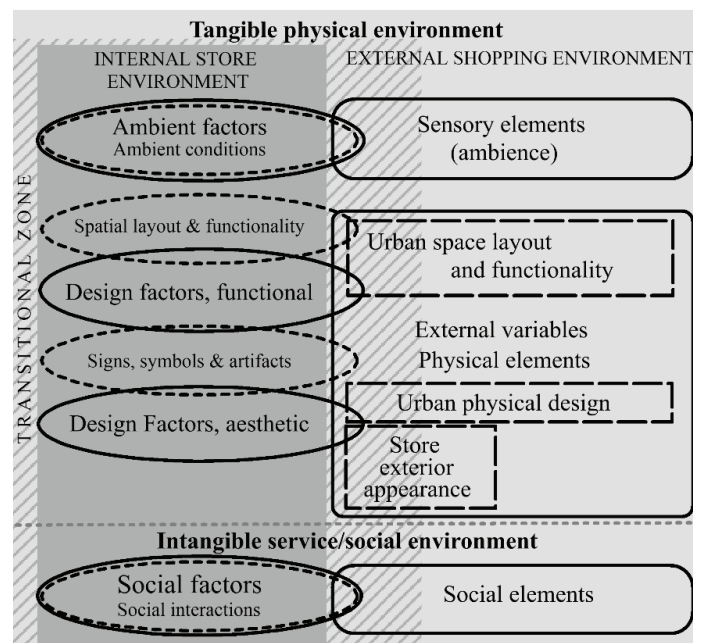


Fig. 1. Typologies of environmental elements [2], [7], [8], [19].

## III. METHODOLOGY

Qualitative content analysis (QCA) was applied to the set of empirical studies (1990–2015) to identify what kind of external elements have been discussed in retailing from the consumer's perspective, and what kind of perceptions relate to these elements [20], [21]. The first step of the review was to identify the relevant journals. Partly because of its increasingly interdisciplinary nature the retailing literature has become dispersed, making it a challenge to encompass the research in its entirety [22]. To narrow the options, the focus was on European-based journals since the 1990s when retailing became more common as a research topic in Europe, and the number of dedicated journals started to increase [23]. Based on the rankings of retailing journals in Europe, four worldwide and interdisciplinary journals with the desired scope were selected [22]–[24]: *International Journal of Retail & Dis-*

TABLE I  
RESEARCH ARTICLES CATEGORIZED BY THE FRAMEWORK OF THE STUDY [AUTHORS OF THE ARTICLE]

	External shopping environment incl. transitional zone	Internal + external shopping environment incl. transitional zone	Total
Number of studies	10	49	59
Design elements	9	12	21
Design + ambient elements	1	37	38
Functional design elements/ <i>Urban space layout &amp; functionality</i>	7	48	55
Aesthetic design elements	6	11	17
<i>Store exterior appearance</i>	4	9 (6)	13
<i>Urban physical design</i>	3	4 (3)	7

Note: Indirect references to aesthetic elements are marked in parenthesis.

tribution Management (est. 1973); *International Review of Retail, Distribution and Consumer Research* (est. 1990); *Journal of Retailing* (est. 1925); and *Journal of Retailing and Consumer Services* (est. 1994). Given that the journals had the greatest coverage of consumer-related studies (the University of Turku database) it was assumed that they would form a large enough body of literature for the review.

As a next step, the relevant articles were selected using various scientific databases (Emerald Insight, ProQuest, Science Direct, Taylor & Francis). As the reliability of keywords for a database search could not be assessed, articles were selected by systematically reviewing the titles or abstracts. Many relevant studies would have been missed had the keywords *consumer* and *perceptions* been combined with the words *town* or *city*. Moreover, *town*- and *city*-like terms were too restrictive. Based on the typologies [11], [19], perceptions of externals were also assumed to derive from the in-store studies. Total of 307 articles with title or abstract referring to consumers, perceptions and the physical environment were selected. After reviewing all abstracts (full texts in uncertain cases), 59 articles were selected for the analysis. Studies lacking empirical consumer data were excluded, as were articles focusing solely on internal or intangible service environment. A couple of relevant articles were excluded due to limited access to the full texts.

As in a directed approach to QCA, the articles were analysed in line with the framework of the study [25]. The articles were first categorized based on their emphasis on solely the external shopping environment or both internal and external environments, including the transitional zone. Then the articles were categorized based on the design and ambient elements identified using a systematic review. Keyword-based search was abandoned as smell, for example, has many synonyms with un-/pleasant connotations and sound may refer to music or noise, whereas convenience may connote accessibility, parking and way-finding. The articles were further divided based on the functional (space layout and functionality) and aesthetic design elements (physical design, store's exterior appearance) [8], [19]. Finally, the consum-

er-relevant contents of the elements identified were summarized. In addition, the general characteristics (e.g. research approach) were examined, and the target groups were identified.

#### IV. FINDINGS

##### A. Overview of the Articles

The consumers' perceptions were usually examined from the perspective of an "average consumer". A handful of articles targeted specific groups such as genders [26], [27], ethnic groups [28]–[30] or generations [31]. Given the importance of functionality, particularly for mobility-restricted shoppers, the strongest focus was on ageing and disabled consumers [32]–[41]. Regarding data collection, quantitative means including surveys conducted at retail sites [42], [43], over the phone, via post or online [44]–[46], were usually used. The qualitative studies relied on interviews or focus groups [47], [48]. The few studies used mixed methods [49]–[53].

##### B. Elements in the External Shopping Environment

Ten articles focused solely on the external shopping environment (Table I), covering aspects such as regenerating the town or city centres [42], [54]–[57] or large urban neighbourhoods [47], [58] and effect of window displays on consumers [59]–[61]. The 49 articles focused on internal store environment including perceptions of the external elements. All articles included the design elements, either alone or together with ambient elements. Noteworthy, the externals were not usually the main targets. A couple of studies compared shopping streets and shopping centres to the same set of elements [62]–[64] but the tendency was to include one or two externals among the internals [65]–[72], to combine a handful of externals into a dimension/factor (e.g. external atmosphere) [73]–[75], or externals featured in qualitative data on consumers' thoughts [35], [76]. The external elements discussed from the consumers' perspective are presented in Table II.



TABLE II  
EXTERNAL ELEMENTS DISCUSSED FROM THE CONSUMERS' PERSPECTIVE [AUTHORS OF THE ARTICLE]

Type of elements		Number of research articles where the external elements were identified
Design elements, functional	layout	11 [45, 51, 55, 56, 62–65, 74, 79, 82]
	convenience	53 [26–45, 47–58, 62–77, 79, 80, 82–84]
	safety	12 [26, 29–31, 46, 57, 58, 64, 69, 74, 78, 79]
Design elements, aesthetic	architecture	11 [36, 58–60, 63, 64, 71, 74, 77, 79, 81]
	style	6 [56, 59–62, 79]
	colours	6 [41, 56, 62, 63, 80, 81]
	materials	1 [36]
	furnishings	3 [42, 56, 79]
	decor	1 [80]
Ambient elements	weather	5 [35, 53, 63, 83, 84]
	temperature	4 [35, 64, 82, 83]
	air quality	4 [64, 76, 79, 82]
	smell	3 [42, 64, 82]
	cleanliness	3 [42, 64, 79]
	lighting	1 [64]
	sound	1 [42]

Regarding the design elements, *layout*, *convenience* and *safety* were identified as functional design elements, and *architecture*, *style*, *colours*, *materials*, *furnishings* and *décor* as aesthetic design elements [11], [19]. Most of the articles focused on functional design elements (urban space layout and functionality), *convenience* in particular (Tables I and II). The studies dealing with the aesthetic design elements (store exterior appearance/urban physical design) discussed most commonly *architecture*, *style*, or *colours*. There were several references to aesthetics, “an interesting window display”, for example, but the elements, which made these windows interesting remained unknown. Thus, only the direct references to the elements were registered in Table II. In terms of the ambient elements, *weather*, *temperature*, *air quality*, *smell*, *cleanliness*, *lighting*, and *sound* were identified, the climatic elements being the most common.

### C. The Consumer-Relevant Perceptions of the External Elements

Regarding the functional design elements, the urban layout seemed to influence the enjoyment of shopping [56], [63]. In the linear shopping-street layout, the stores were easily perceivable [62], but vacant shops here and there heightened the perception that viable stores were located too far apart [55]. The convenience of walking around, parking and accessibility seemed to effect positively on patronage intentions and willingness to linger [56], [77]. Outdoor shopping offered opportunities for exercising [76], but poor parking facilities and high fees were typical reasons for not visiting or spending time in the centres [57]. Although perceptions of safety were usually related to insecurity in parking areas [26], [78], streetscapes with vacant stores also increased negative feelings. There was evidence that the re-

talization projects have abated concerns about safety. A healthy shopping environment increased the number of visitors, which in turn seemed to deter criminal elements [57].

Perceptions related to aesthetic design elements indicated that well-designed and well-maintained buildings increase the attractiveness of shopping environment [58]. Consumers who valued a unique architectural style preferred shopping streets over shopping centres [56], [79]. Appealing architecture and colours were strong attractors [80], particularly among those with hedonic shopping motives, which in turn was related to the multipurpose shopping [63]. Noteworthy, urban landscape architecture improved street aesthetics and shopping satisfaction [58], [76]. Visually aesthetic shop windows (style, colours, materials and décors) played an important role in attracting consumers [81], especially recreational shoppers [59], [60]. Colourful (illuminated) signs, installed for marketing or directive purposes, also decorated the external shopping environment [80]. Urban furnishings and materials had both aesthetic and functional purposes [42], [57]. The materials were considered important in terms of convenient and safe street surfacing [36], whereas outdoor seating was emphasized as particularly important for shoppers who liked to spend time in the centre [42].

Pleasant ambience including temperature, air quality, smell, cleanliness and lighting were found to increase shopping enjoyment [64]. Given that these externals fluctuate somewhat, it was assumed that temperature, air quality and smell do not significantly affect re-visiting or time spent in the area [82]. However, they were found to affect the shopping-destination choices; weather condition, for example, was among the most frequently mentioned choice criteria [83]. Covered shopping centres offered protection from bad weather, whereas nice weather and fresh (as opposed to

mechanical) air attracted consumers to outdoor [35], [84], [76]. However, those who prefer shopping streets seemed to assign less importance to time convenience, meaning that they do not mind if bad weather slows down their shopping [63]. More specifically, consumers with experiential shopping motives seemed to enjoy an interesting external ambience (i.e. sounds, smells, and cleanliness) [42].

## V. DISCUSSION AND CONCLUSIONS

The town- and city-centre shopping environments in decline have generated increasing amounts of academic research. This review focused on the retailing research and summarized the consumers' perceptions of the external shopping environment compiled from retailing articles over a 25-year period. The aim was to identify the consumer-relevant elements, which could be utilized in revitalizing the intra-urban centres. The selected key journals had published several relevant articles, and although a handful of them focused only on external shopping environment, many in-store-focused articles included valuable perceptions of the external elements. The systematic review revealed many more relevant articles than a database search based on predefined keywords would have produced. Although it was not possible to consider all published material, the rigorous review of 59 articles brought to light the profound understanding of the topic.

Reflecting the typologies used in the framework (Fig. 1), there was a strong emphasis on the effect of functional and aesthetic design elements on consumers' perceptions and, in turn, on the attractiveness of the external shopping environment. The functionality of the environment was clearly the most profoundly studied theme. The *convenience* of parking and walking around were the most commonly discussed elements, followed by *safe* shopping and an easily perceivable and interesting *layout* [57], [63], [77]. This indicates that intra-urban centres should enhance both their pedestrian- and car-friendliness. Urban layout, formed over a long period of time, is challenging to redesign requiring the public-private cooperation. Convenience and safety can be controlled by both retailers and urban planners (by investing, e.g. in lighting, signage, street surfacing, accessibility) to improve functionality and, in turn, enhance the competitiveness of intra-urban centres.

Regarding the aesthetics of the environment, *architectural style* was the most common element discussed in retailing research. The building architecture and visually appealing shop windows were considered assets in creating an attractive shopping environment [58], [59], [79], implying the need for strong co-operation between retailers and urban planners. The details in urban design, including *colours*, *materials*, *furnishings* and *décor*, did not attract much attention in the selected articles. However, these elements, which are relatively easy to control at a low cost, appeared to be relevant to consumers in affecting their shopping enjoyment [42], [63], [80]. Small changes in urban design (e.g. outdoor seating, street art, flower arrangements) can make a difference to the attractiveness. Investment in aesthetics could give an advantage in terms of offering experiences that differ positively from those in competing shopping environments [3].

Thus, revitalization projects should respect the unique nature of the intra-urban architecture including landscaping.

In the in-store focused research, the external ambience has not gained much attention [2]. The few selected articles considered the effects of *weather*, *temperature*, *air quality*, *smell* and *cleanliness* on shopping satisfaction [64], [82], [83]. Fresh air was perceived as an asset of the external shopping environment. Although the weather is the trickiest to control in competing with indoor environments [83], its unpleasant effects can be compensated by installing shelters or heating systems, for example. The effects of airborne elements caused by car traffic can be minimized with natural/artificial barriers. Given their reported consumer relevance, urban *sounds* and *lighting* [83] [64] should also be considered [2]. Investments in lighting, for example, enhance both the aesthetics and functionality. These examples indicate that it is possible to control external ambience using the design elements.

This review indicates that in retailing more emphasis should be given to the external shopping environment [7], [8]. Many of the articles included one or two externals, the effects of which were discussed. Given that the elements may have different effects in different contexts, they should be investigated thoroughly to determine which characteristics and which combinations of them make different intra-urban centres attractive, or unattractive. More specifically, as the selected articles focused mostly on the in-store environment, the external aesthetics and ambience were not discussed in detail. There is a need for empirical research to give a deeper perspective on the elements identified. To organize consumers' perceptions, a typology of external elements is proposed. It largely validates the existing typologies [2], [8], [11], [19], but also specifies them on an individual level (Fig. 2).

Given that consumers' perceptions of the physical shopping environments differ [9], the externals are separated from the internals (Fig. 2). The dichotomy is supported by the way retailers can control the elements [2], [16], the externals mostly requiring public-private co-operation. However, bricks-and-mortar retailers have a strong control in the transitional zone as their investments in aesthetics, functionality and ambience increase the attraction of their stores and exteriors [59]. In addition, the external ambience is separated from the design elements (Fig. 2). However, there is a link between them in that the aesthetic design elements can be used to control the ambience, which in turn may affect functionality (e.g. the effects of lighting on convenience). Although the functional and aesthetic design elements are also separated [8], [19], it was identified that they overlap in aesthetic elements with functional contents. Surfacing material in pedestrian areas affects safety [42], for example, outdoor furnishing decorates the streetscape and offers places to rest and enjoy the views [36]. The findings indicate that functionality has a strong effect on attractiveness [56], [77], [80], but it is worth noticing that the intra-urban centres have increasingly become environments where consumers spend time and enjoy the aesthetics [63].

For further studies, based on the typologies [2], [11] the social elements are outlined in the typology (Fig. 2). Given that the tangible environment offers a physical context for social inter-

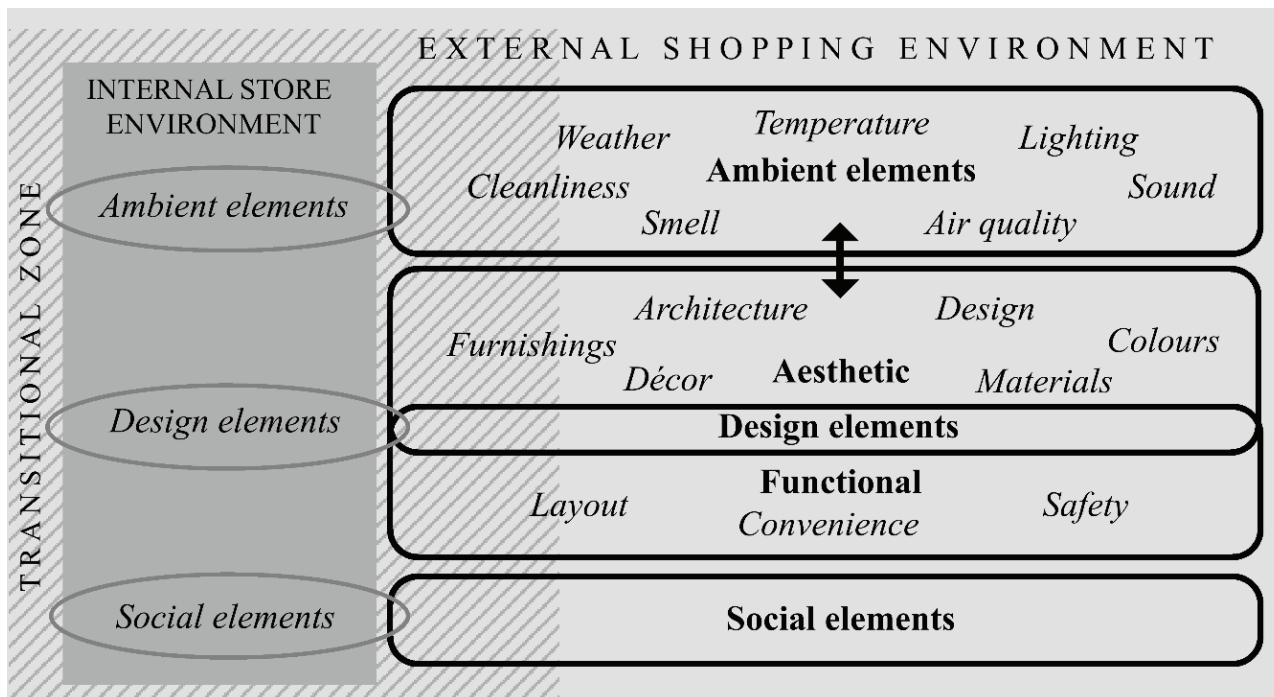


Fig. 2. External elements in physical shopping environment [Figure: Authors of the Article]. The typology of in-store elements is indicative: see Fig. 1 for a more detailed typology.

action, the retailing research should focus on the role of social elements in the intra-centre shopping [12]. Emphasis should also be placed on different consumer segments (e.g. shopping motives, demographics). Ageing consumers, for example, for whom the physical environment matters, are an increasingly significant customer segment in town/city centres [3], [55]. In addition to location, a scale should be considered. Although the externals are the same in different-sized urban centres, their characteristics and their effects on consumers may be different. The typology outlined in this review could be applied qualitatively to gain an in-depth understanding of consumers' perceptions and desires. This kind of research is needed to identify ways in which town and city centres could stay competitive in the ever-changing retail environment, and to ensure that measures taken in urban revitalization projects are based on scientific knowledge.

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